

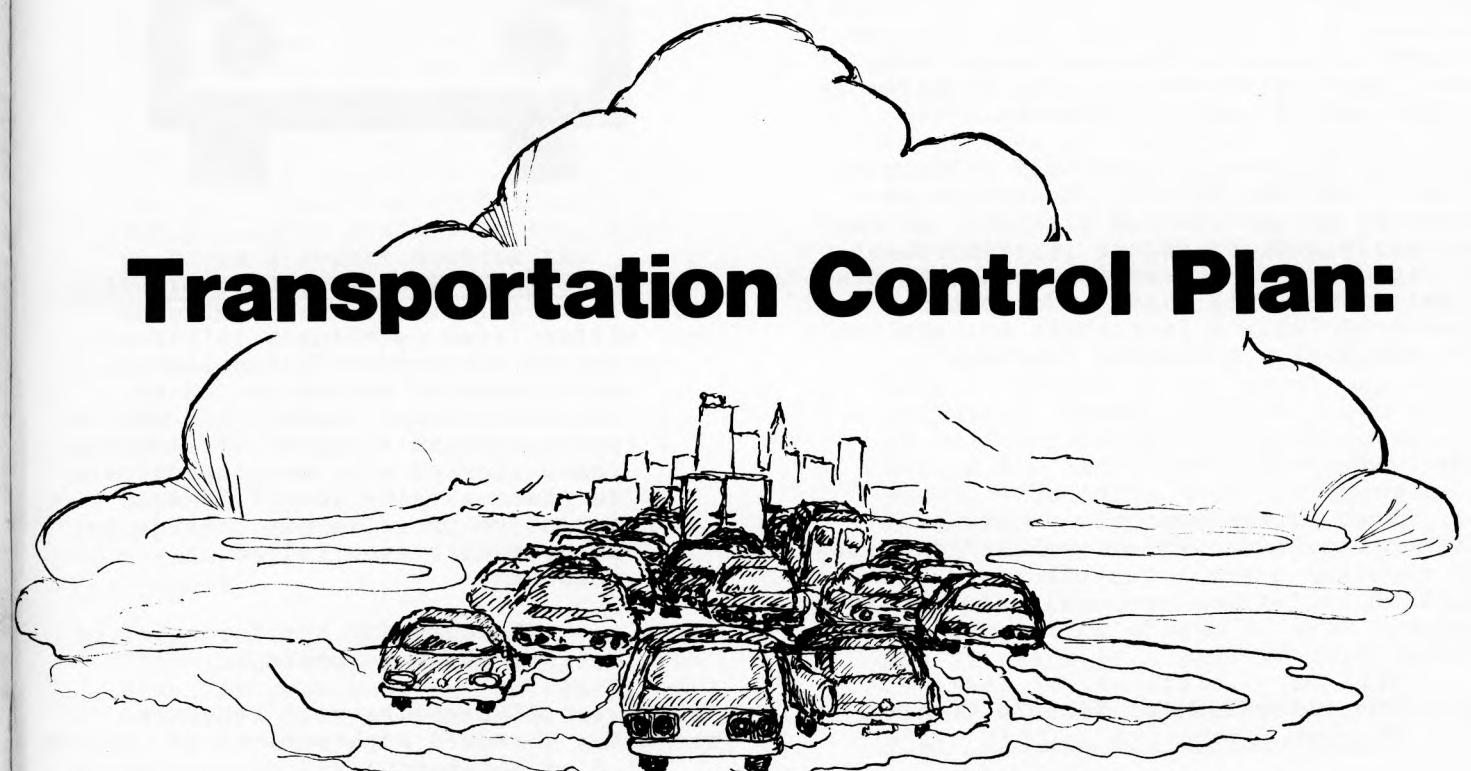
citizens' bulletin

Volume 3

Number 5

January, 1976

Transportation Control Plan:



ready for public hearing

Commissioner Joseph N. Gill has announced that the DEP Transportation Control Plan for the reduction of motor vehicle pollutants in Connecticut has been completed, and will be going to public hearing in early March. The plan outlines strategies for reducing motor vehicle emissions by an amount sufficient to achieve the national ambient air quality standards. After the public hearing, and after legislative approval of certain parts of the plan, it will be submitted to the U.S. Environmental Protection for federal approval. If approved, the plan will go into effect during the summer of 1976.

BACKGROUND

The U. S. Environmental Protection Agency has ordered all states which contain areas exceeding the national air quality standards for motor vehicle pollutants to prepare "Transportation Control Plans" for their regions. Connecticut was directed in 1973 to prepare plans for the Hartford area and in 1974 to prepare plans for the New Haven and Southwestern Connecticut areas. The primary purpose of the plan is to reduce the level of "photochemical oxidants" in these areas, which during the summer

of 1975 exceeded by 3½ times the national air quality standards designed to protect human health. Photochemical oxidants are products of a chemical interaction of nitrogen oxides and hydrocarbons in the presence of sunlight. Although nitrogen oxides are produced in virtually every type of burning, a full seventy percent of the hydrocarbons in Connecticut are produced by motor vehicles.

According to Commissioner Gill, motor vehicle-related pollutants are of concern because of their adverse effects on human health. Carbon monoxide creates stress on the human circulation system, nitrogen oxides damage lung tissue, and hydrocarbons -- in conjunction with nitrogen oxides -- react to form oxidants (smog) which aggravates the existing respiratory conditions of many individuals.

"Although more than half of Connecticut's oxidant problem on certain days comes in to us from out of state, we can certainly hope to reduce it significantly by implementing the measures in this plan," Commissioner Gill said. "Connecticut will then be doing its fair share to overcome its automotive pollution problem."

THE PLAN

Most of the measures in the plan attempt to reduce motor vehicle emissions by reducing overall vehicle usage. The various individual proposals are outlined below.

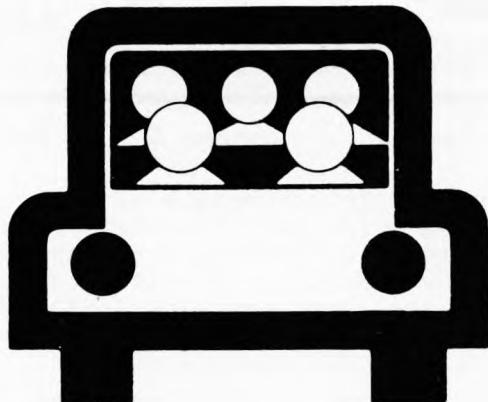
1. The Federal Motor Vehicle Control Program

Motor vehicle manufacturers are required to reduce emissions from new motor vehicles by 90% from 1970 and 1971 emission levels, as directed by the federal government. Closely tied to the effectiveness of this program will be the proposed inspection and maintenance program, described under #4 below.

2. State-Implemented Carpool Programs

The State is already sponsoring a computerized matching system for carpoolers. Carpool applications are being enclosed with the yearly motor vehicle registration renewal forms. After filling out the application the vehicle owner returns it to the motor vehicle department together with the registration renewal materials, and he or she will then be matched against other applicants with similar working hours and commuting

routes. Carpooling will be further encouraged through the increased use of special carpool parking lots and special bus and carpool lanes on highways.



3. Commuter - Incentive Carpool Plans

Large firms, working with DEP and the Department of Transportation, will be asked to design, on a voluntary basis, carpool incentive programs with the goal of reducing the number of single-occupant cars in their parking lots. These incentive programs may include any or several of the following measures:

- *Encouraging the formation of company carpools
- *Staggering work schedules to reduce peak periods of vehicle congestion and air pollution
- *Forming van pools, in which company-purchased vans are leased to employees for commuting to and from work
- *Subsidizing public transit costs for employees
- *Encouraging bicycle use by providing bicycle parking areas and removing obstructions to bicycle travel

Many of these programs are already in effect in some of Connecticut's larger companies, and so far are very successful.

4. Inspection and Maintenance System

A system of approximately 23 motor vehicle inspection stations is

being proposed throughout the State, to be operated by a single private firm under the joint supervision of DEP and the Dept. of Motor Vehicles. Each year, as part of the requirements for registration renewal, all on-the-road motor vehicles will be inspected for emission standards. These standards will be geared to the make and model of the vehicle being tested, and when complied with, will ensure that each vehicle is running at maximum efficiency for its design.

Testing at State stations will be performed by a computerized exhaust gas analyzer, which will measure emissions at idle and at simulated cruise conditions.

Any owner of a vehicle which fails to pass the emissions test, or which has an inoperative or disconnected air pollution control device, will be given a report showing the vehicle's emission readings, the emission standard for the particular vehicle, and a diagnosis stating the mechanical problem most likely responsible for the high emissions. The most common form of corrective action will be a tune-up, and will probably cost the vehicle owner between \$30-50. As a result of the repair, however, the owner should save money through increased fuel economy.

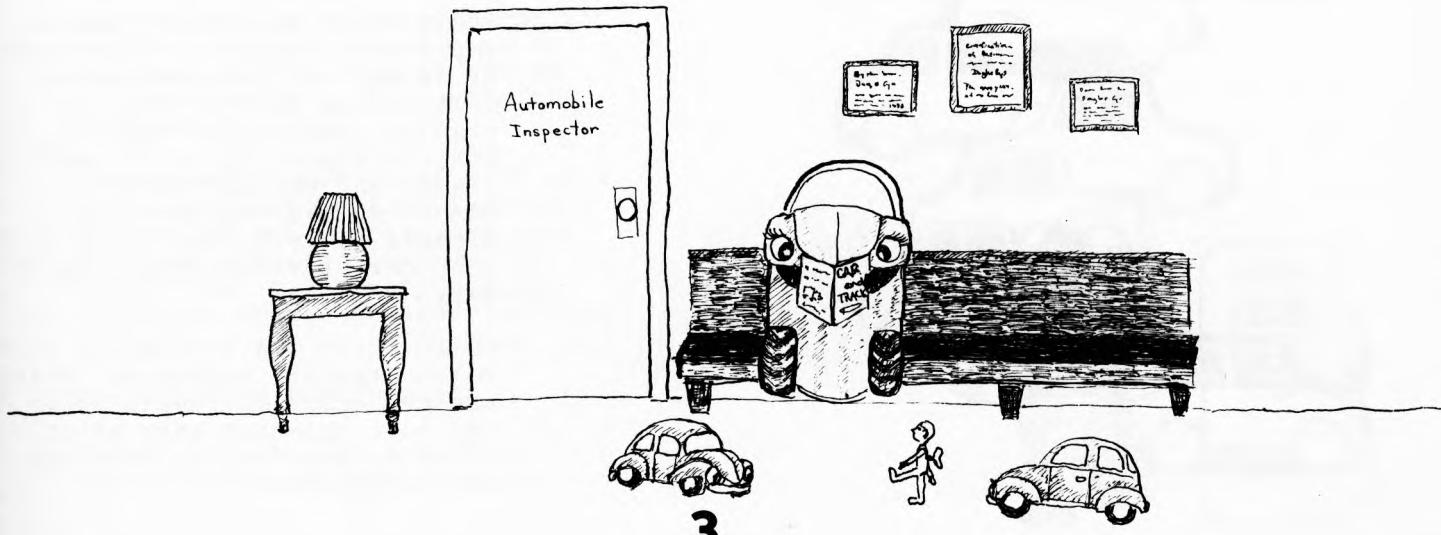
"The inspection and maintenance program, as proposed, is the result of a joint effort between the Departments of Environmental Protection and Motor Vehicles," said Commissioner Gill.

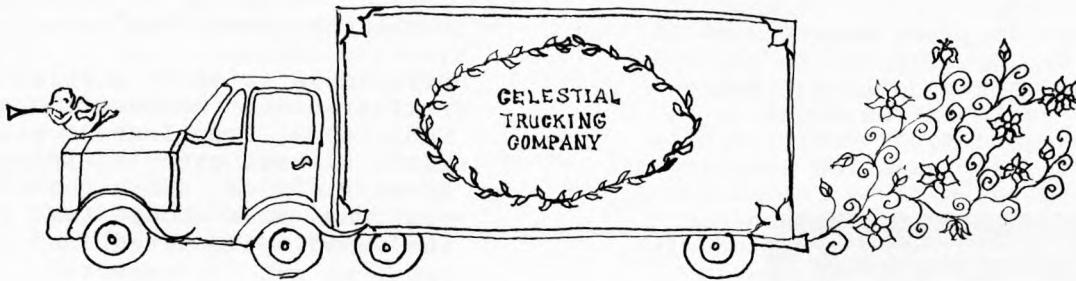
"Every effort is being made to design the system to be as smoothly-running as possible."

Sixty days prior to expiration of registration, the Department of Motor Vehicles will mail the registration renewal forms with the inspection forms included. Each vehicle owner will then have enough time to have the vehicle inspected, and possibly repaired and re-inspected. DEP's objective is to have the system self-sustaining financially, with the inspection fee around \$6. Waiting time at the station hopefully will not exceed 15 minutes.

The Inspection and Maintenance Program is projected to be in full operation before 1980. During the first year of operation, a pilot test station may be operated for voluntary inspections. The full system of 23 stations will operate during the second year, and although all vehicles would have to be inspected, they would not have to actually meet the emission standards in order to be registered. (They would, however, have to repair or reconnect any air pollution control devices found to be malfunctioning or disconnected.) During the third and subsequent years, compliance with the emission standards would be required for registration or registration renewal.

The inspection system will be built and operated by a private firm under contract to the State. The firm itself will be chosen by the official state bidding procedures.





5. Retrofit of Heavy-Duty Vehicles

There are approximately 65,000 heavy-duty gasoline-powered motor vehicles in Connecticut which weigh over 6,000 lbs. Under the proposed plan, these vehicles will be equipped ("retrofitted") with emission control equipment in accordance with specific regulations which will be adopted by DEP. These requirements will be consistent with similar requirements in the states of New York and New Jersey.

"We've estimated that hydrocarbon emissions can be reduced by an average of 75% on trucks made after 1971, and by 20% on pre-1971 models," said Commissioner Gill. "This important program could account for more than one-fifth of the clean air achievement possible from all the Transportation Control Plan strategies combined."

6. Vapor Recovery at Retail Gas Stations

For every thousand gallons of gasoline handled by retail gas dealers, about four gallons are lost as evaporated hydrocarbon vapors. The Transportation Control Plan calls

for the reduction of these vapors through the installation of systems that recover vapors lost during pumping: (1) from gasoline tank trucks to underground storage tanks, and (2) from underground storage tanks to automobile tanks.

The cost of vapor recovery should be partially offset by the savings in gasoline recovery to the retailer.

7. Bikeways

A system of bikeways could encourage more bicycle commuting, by making it safe and efficient. If conveniently located, bikeways could divert short trips from cars to bicycles and thus save potential air pollution. The Connecticut Department of Transportation has already prepared a bikeway plan entitled Connecticut Bikeways for establishing a network of bikeways throughout the state. The proposed transportation control plan will require that certain of these bike-ways be constructed by May 31, 1980.

Bikeways likely to be specified for construction are those in the following categories:

- a. Those which would serve major employment centers. If requested by an employer who documents that such a bikeway will significantly reduce motor vehicle commuting to his work place, and who agrees to encourage his employees to bicycle to work, the State will consider providing such a bike-way.
- b. Those which would parallel high-volume traffic corridors, which are projected to remain above the safe emission rate after other transportation controls are implemented.





Bikeways will be constructed on abandoned railroad rights-of-way parallel to high-volume traffic corridors where possible. Where no such rights-of-way exist, new bike paths may be constructed or exclusive bicycle lanes assigned on streets and highways where road width permits.

8. Transit Improvement Program

"The implementation of the seven programs already described will not reduce statewide emissions of hydrocarbons by enough to bring Connecticut's oxidant levels within the national ambient air quality standards," said Commissioner Gill. "A greater proportion of trip demand must be met by a public transit system in order to bring Connecticut into compliance."

Consequently, DEP staff will work with the Department of Transportation and other transportation planning agencies in order to ensure that all transportation plans are geared towards lowering overall vehicular pollution.

9. Traffic Flow Improvements

In addition to the statewide photochemical oxidant problem

caused by vehicle-produced hydrocarbons, Connecticut also has a problem with localized carbon monoxide pollution, usually the result of heavy traffic congestion at roadway intersections, where lines of idling vehicles form. Intersections where such lines exist will be identified through the cooperative efforts of the Departments of Environmental Protection and Transportation, the municipalities and other transportation planning agencies. Remedial action may consist of modifying intersection design, traffic flow patterns, or signalization. In general, any changes which improve the freedom of traffic flow or lessen the volume of traffic will lower carbon monoxide concentrations in the area.

"Notice of the upcoming hearings on the proposed Connecticut Transportation Plan will appear soon in the Connecticut Law Journal and in local newspapers," said Commissioner Gill. "DEP expects to hold the hearings sometime in early March. All interested parties and members of the public are welcome, and testimony gathered at the hearings will be carefully considered in finalizing the Plan," he added.

FOR FURTHER INFORMATION OR COPIES OF THE PROPOSED TRANSPORTATION CONTROL PLAN, CONTACT HENRY BEAL, DIRECTOR, DEP OFFICE OF AIR COMPLIANCE, ROOM 185, STATE OFFICE BUILDING, HARTFORD, CONNECTICUT 06115. PHONE: 566-4030.



reader's forum



To the Editor:

Your latest issue of the Citizens' Bulletin, Volume 3, Number 4 contains an article by Douglas Starr, "The Solid Waste Story." It seems to me that several additional factors should have been considered by the author. In particular two omissions -- source reduction of solid waste and more specifics on the economics of resource recovery especially as related to rural areas of the State, needed some discussion.

It is very important in discussing solid waste and resource recovery not to give the misleading impression that the generation of waste and its subsequent separation, processing and sale makes good economic sense. From an economic standpoint, it is always best to minimize the total volume of waste to be handled and treated. The processing cost per ton is inevitably less than the eventual recovery value on the scrap market. Of course there will always be solid waste but a major part of the policy emphasis should be to reduce the total volume of waste that enters the system. More durable products, and less material-intensive packaging are two examples of approaches that could be effective in reducing waste at the source.

Another misimpression that I frequently encounter both in Connecticut and outside is that very soon almost all our solid waste will be processed through economically viable recovery systems and therefore "there is no such thing as solid waste any more" -- just municipal "ores."

As Starr points out we have yet to build our first plant which at the earliest will process solid waste from the Bridgeport area by 1978. That equipment has still to prove itself for sustained reliability and efficiency of operation (i.e., how many materials and their percentage by weight) slip past

THE CITIZENS' BULLETIN WELCOMES LETTERS AND OTHER READERS' CONTRIBUTIONS. IF YOU WISH TO SHARE YOUR IDEAS, PLEASE WRITE TO US: C/O EDITOR, CITIZENS' BULLETIN, DEPARTMENT OF ENVIRONMENTAL PROTECTION, ROOM 112, STATE OFFICE BUILDING, HARTFORD, CONNECTICUT 06115.

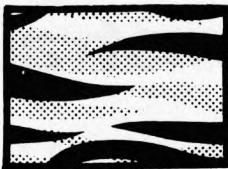
the various recovery stages, magnets, flotation devices, etc. and are essentially lost). Only after that Bridgeport facility and others of similar size and scope have operated successfully can it reasonably be expected that other communities will commit themselves to make similar investments. Should the equipment ordered for Bridgeport be delayed or should it not operate as specified or should the economics not work out as hoped, it will set back the cause of resource recovery until those issues have been resolved successfully. In addition, the economics of recovery plants in rural areas will probably be negative for a very long time to come.

My point is not to be negative about recovering value from garbage; quite the contrary. My purpose is to indicate that resource recovery is still at the prototype stage, that much experience is needed, experience which only time and experimentation can provide. It will be a very long time, probably several decades, before a significant portion (perhaps half) of Connecticut's total solid waste will be processed for beneficial and economic recovery of its constituents.

Carlos D. Stern
Assistant Professor
Environmental Economics
University of Connecticut

AUTHOR'S REPLY:

Connecticut's present rate of waste production is 10,000 tons per day. The Bridgeport Resource Recovery Plant, scheduled to be operational by 1978, is designed to process 1700 tons per day. The plant for the Central, Capitol and South Central Regions, scheduled for late 1978, will handle 1800 tons per day; and the Naugatuck-Houstonic plant, scheduled for the early 1980's, will process 1500 tons per day. That adds up to 5000 tons per day, or 50% of Connecticut's solid waste. Even anticipating delays of several years, one could expect that half of Connecticut's yearly production of solid waste will be recovered within the next decade. These plants will use technology which is not experimental, but which has been successfully used in resource recovery plants in St. Louis, Missouri and Cambridge, Massachusetts, and in private industry as well.



university of connecticut
INSTITUTE OF WATER RESOURCES

Continuing 1975-76 Seminar Series

The 1975-1976 Institute of Water Resources Seminar Series will continue to focus in 1976 on the topic of WATER QUALITY AND HEALTH. All seminars in the spring semester will be held in Room 200, Nathan L. Whetten Graduate Center, University of Connecticut Storrs campus, beginning at 3:30 p.m. (Coffee and doughnuts will be served at 3:00 p.m.) Parking facilities are available on the campus and attendees should plan to stop at one of the Traffic Information Booths to receive a parking permit.

The agenda for the spring semester is as follows:

1/21/76 Dr. Theodore C. Metcalf
Professor of Microbiology
University of New Hampshire

"The Virus in Water Problem and Related Public Health Concerns"

2/18/76 Dr. Samuel S. Epstein
Professor of Environmental Health & Human Ecology
Case Western Reserve Univ.

"Drinking Water and Cancer"

3/17/76 Dr. Ernest E. Angino, Chairman
Geology Department
University of Kansas

"Water Chemistry - The Geochemical Environment in Relation to Health and Disease"

4/21/76 Professor Leonard B. Dworsky
Civil and Environmental Engineering Department
Cornell University

"The Environment and Health - Is There Still a Relationship?"

* THE CITIZEN'S BULLETIN IS SUPPORTED IN PART BY FUNDS PROVIDED BY THE U.S. DEPT. OF THE INTERIOR, AS AUTHORIZED UNDER THE WATER RESOURCES RESEARCH ACT OF 1964, P.L. 88-379.



Waterfowl conference scheduled

The 2nd International Waterfowl Symposium will take place February 13, 14, and 15, 1976 at Stouffer's Riverfront Towers in St. Louis, Missouri. The Symposium is a conference hosted and administered by Ducks Unlimited, Inc. It was developed in order to bring together professional conservationists, scientists, and interested lay people for discussion of various aspects of waterfowl management.

Ducks Unlimited is the international wildlife conservation organization with branches in Canada, Mexico and New Zealand. The organization exists for purpose of raising funds to be used to preserve, restore and maintain waterfowl breeding habitat in Canada.

The many prominent speakers at the 1976 conference will include: Congressman John D. Dingell (Michigan); Dr. Milton Friend of the U. S. Fish and Wildlife Service; William K. duPont, Senior Vice President of Ducks Unlimited; the Honorable Nathaniel P. Reed, Assistant Secretary of the Department of the Interior; and John "Frosty" Anderson of the National Audubon Society. General Chairman of the Symposium will be Merrill L. "Pete" Petosky, Director of Wildlife Management of the U. S. Forest Service, Department of Agriculture.

For additional information and registration materials, please write directly to Symposium Headquarters, P. O. Box 66300, Chicago, Illinois 60666.

DEP Copes with Budget Constraints

On January 2 504 people were released from state service as part of the overall effort to reduce the state's budget deficit. 34 of those worked for DEP, in the Conservation & Preservation, Environmental Quality, and Administrative Divisions of the Department. Both layoffs and budgetary restrictions indicate that this year will be an austere one for environmental protection in Connecticut.

The layoffs in DEP are expected to save \$115,000 for the remainder of the fiscal year from the department's \$8,980,000 operating expenses. The federal government contributes an additional \$3,919,000 per year.

In assessing the impact of the layoffs Commissioner Joseph N. Gill said, "It's going to be tough, but we've adjusted our personnel to carry the losses. We're doing our best to maintain the vital programs of pollution control and to minimize the effects on the people we serve."

The areas in which personnel were released and the anticipated effects of the layoffs are as follows:

Conservation & Preservation: Out of a total staff of 376 general-funded positions, the C & P Division lost 23 people, including mechanics, carpenters, maintenance people, a forester trainee and a wildlife biologist. Conservation and Preservation is the division of DEP responsible for the management of state resources and parks, forests and outdoor recreation areas. According to Deputy Commissioner Theodore Bampton, "all but two of the people dismissed are field people. We are doing our best to make adjustments so when the parks and recreational areas open in May we'll be able to provide for the public's needs."

Environmental Quality: The division responsible for the state's anti-pollution programs lost nine people from a staff of 247. Environmental Quality Deputy Commissioner Melvin Schneidermeyer said the impact of the layoffs would be "some lessening of our ability to complete technical analyses in a timely manner, but will not directly impair any of our environmental protection efforts. We are temporarily assigning higher level technicians to cover staffing shortages, while training other individuals in the department to replace those who were laid off."

The layoffs occurred in the four largest units of Environmental Quality: Air Compliance (2 layoffs), Water Compliance (3), Solid Waste (2) and Water Resources (2). According to Schneidermeyer, "Each affected unit is realigning its staff assignments to minimize potential impacts. We'll also be using the assistance of the Natural Resources Center in DEP to help fill in where we need field inspection services."

* * *

The problem of decreased staff can be better understood if examined in a larger perspective than that of the January layoffs. Over the last year the state agencies have been limited in their ability to fill staff vacancies as they developed.

In December, 1974, out of an authorized strength of 778, 68 positions at DEP were left unfilled. One year later in December, 1975, 110 were unfilled.

The result is that the number of DEP employees throughout the state has dropped over the last year: from 710 in December, 1974 to 635 in December, 1975.

Commissioner Gill points out that staffing is not the only area in which DEP is confronting monetary problems. "Since fiscal year 1972 our overall operating funds have been steadily rising. But this year they've gone sharply down, even though our program commitments have expanded."

DEP state operating funds rose from \$8,154,897 in 1972 to over \$10 million in 1974. They dropped to \$8,898,000 for this fiscal year.

"The problem is compounded by the fact that in certain areas the federal government has set minimum spending requirements for the state," Gill said. Nearly one-third of last year's DEP operating budget was paid by federal grants. According to the Commissioner, "We have reviewed our state/federal matching requirements and find they are currently being met by a narrow margin."

The Air, Water and Solid Waste programs receive the largest federal grants. The Conservation and Preservation Division, according to Gill,

"receives 99% of its operating budget from the state's general fund, and when cuts in state spending are made, that division is more strongly affected."

Another in the list of fiscal problems facing DEP is the allocation of capital, or bond funds, used for construction projects, grants to municipalities and land acquisition for state parks and preserves. Capital fund moneys are authorized by the legislature, but before being used must be allocated by the State



from the field

by Douglas Starr

"Some of the early radiologists were also radiation casualties," the inspector said, leaning over a fluoroscope, "and the technicians used to turn these things on to look at the bones in their hands. They just weren't aware how harmful x-ray radiation was."

The inspector was Matt Lennon of DEP's Radiation Compliance Unit. He and Nick Plescia regularly inspect the 2960 medical x-ray units in Connecticut used by doctors, dentists, hospitals, veterinarians and podiatrists. Hospital machines are inspected once per year, other medical x-rays once every two years.

Of the total radiation received by people in the United States over 90% comes from medical and dental x-rays. It is known that a radiation dose of 400,000 milliroentgens (mr's) has a 50% fatality rate, and that the average person in this country receives about 55 mr's per year from x-rays. But it is not known how harmful small doses of x-radiation are or if their effects are cumulative. Therefore, safe medical practice entails minimizing any doses of radiation that patients do receive.

The Radiation Compliance Unit of DEP was formed in 1971 when the department was established and is responsible for regulating all sources of radiation in the state. It enforces regulations in-

Bond Commission. According to Gill, fund allocation in many areas will probably not be forthcoming.

"All bonded programs are currently being reviewed by the DEP and the Governor's Task Force on Public Works," Gill said. "So far we've deferred certain land acquisition projects. We hope that high priority projects, such as those in Water Compliance, will not have to be postponed or eliminated," he said.

corporated into the Connecticut Public Health Code in 1958 and 1964.

We went to the Mansfield Training School, where Matt and Nick were to inspect the medical x-ray unit. For doctors' offices they work separately, but in hospitals, with the need to save time, they work together. In the x-ray room Matt began pulling testing equipment out of his bag while Nick asked the technician questions about his operating technique.

"How may operators use the machine? Do you use a film badge?"

A film badge is required for any operator expected to receive over 25 mr's of radiation per week. Radiation is recorded on the film inside the badge, which is sent to the badge manufacturer for analysis. If the badge records large amounts of radiation the operator is in danger, and either his operating technique or the machine must be corrected. Nick recorded that for this technician there was no danger.

"What is your developing time for the film? Is the darkroom light-tight?"

If the developing time is short the operator might compensate by increasing x-ray exposure to the patient, causing unnecessary irradiation. Similarly, a leaky darkroom affects developing and may lead to overexposure of the patient.

In this case the darkroom was light-tight and the developing time was ideal: 3-1/2 to 5 minutes.

Nick also checked the procedure and exposure time used to x-ray different parts of the body (chest: 1/30 second, abdomen: 4/5 second, extremities: 1/10 second) and asked if the patient received a lead gonadal shield when adjacent parts of the body were shot. The gonads are of particular concern because of the possibility of radiation-caused genetic damage.

Matt had his equipment set up and was ready for the first test.

With everyone inside the lead-doored operator's room the technician turned on the x-ray for an abdominal exposure of 4/5 second. We were measuring the amount of x-ray reaching the patient for a given exposure.

The device sitting on the x-ray table was a dosimeter, a small black tube supported by a plastic frame, which measures x-ray exposure.

The machine clicked on and off and we went out to check the dosimeter. Matt held the tube to the light and saw 600 mr's registered on the scale inside. Dose level was acceptable.

The same procedure is used to check levels of hard and soft radiation coming through the machine. Hard radiation is that which passes through the patient's body onto the x-ray plate, making the exposure. Soft radiation does not make it through the patient's body to the film, and therefore is an unnecessary source of radiation. Soft radiation is filtered out by placing a thin aluminum disc in the aperture of the x-ray tube. In this case soft radiation was minimal.

The men checked tube house leakage and radiation scatter with a radiation survey meter, a device that resembles a large ray gun. The tester aims it at the source of radiation, presses the trigger and reads radiation levels from a meter on the back. To measure tube house leakage they closed the x-ray shutter, turned on the machine and measured radiation leaking out the machine's sides. There was none.

To check scatter, or stray radiation, Matt took the meter into several adjacent rooms while the technician turned on the x-ray for short exposures. State law requires that the x-ray room be shielded so that exposure to people in adjacent

rooms is kept to an absolute minimum. In each adjacent room the meter reads zero. Scatter tests were also taken from the operator's room and from different parts of the x-ray room. Again, zero.

Next we checked collimation.

State law requires that the x-ray beam be restricted "to the area of clinical interest" so other parts of the patient's body are not needlessly exposed. Matt checked this by placing a fluorescent screen on the x-ray table and having the technician set beam size at 8 x 10 inches. The machine clicked on. For an instant an 8 by 10 section of the screen came aglow, then went off. Collimation was fine.

Finally we checked the exposure switch. Most x-rays are automatically time controlled for exposure, and it is important that the mechanism operate properly.

Matt placed a small black box with red electronic digits on the table and had the technician set the machine at 1/20 of a second. After the exposure we came out and read the number on the box. Seven. This meant seven impulses had been recorded. Since x-rays emit 120 impulses per second, seven impulses for 1/20 of a second was acceptable.

The inspection was over, having taken a little over an hour.

"The cooperation we get in these inspections is excellent," Matt said, "and doctors have been quick to make whatever corrections were necessary. Sometimes during inspections we can re-educate doctors and dentists in new ways to reduce x-ray exposure to the patient. They've always been receptive to this."

Our mistake...

- * In the October and November issues we mistakenly listed Report No. 22 from the Institute of Water Resources as costing \$3.00. The correct charge (at last!) is \$2.00, plus tax for Connecticut residents.
- * On page 7 of the November issue we ran an article on the Federal Duck Stamp. In it we mistakenly listed the total amount of waterfowl habitat preserved as exceeding 22,900 acres. It should have read as exceeding 22,900,000 acres! (Thanks to Roger Seamans of the Farmington

River Watershed Association for bringing this to our attention.)

- * The December "Solid Waste Story" article reported on page 15 that "of the \$14 million total, \$11 has been expended." Actually, \$11 million has been spent.
- * In our pictorial series "How a Deer Check Station Operates" on page 9 of the December issue, we indicated that deer biologists can determine the age of the doe from an analysis of the female reproductive tract. Not so. Only the number of embryos produced can be determined.



Connecticut's Coastal Area Management (CAM) Program has received a federal grant of \$102,000 to study the impact of offshore gas and oil drilling on the state's coastal areas.

The grant was awarded by the National Atmospheric and Oceanic Administration of the U.S. Department of Commerce, and will finance an Outer Continental Shelf Development Study. The purpose of the study is to collect and analyze data on onshore changes brought about by drilling on the outer continental shelf, 95 miles off the coast of Connecticut in the Atlantic Ocean. The drilling area is expected to be leased by the federal government later this year, with production to commence in the mid-1980's.

Charles McKinney, Director of the CAM Program, said the study will focus on "social and economic considerations as well as on the more obvious environmental issues.

"Initial construction of platforms, terminals and refineries are labor intensive," he said. "There may be economic growth along the shore, but it will taper off as projects are completed, leading to possible negative social effects in the areas."

McKinney said that environmental considerations include possible air pollution from refineries and water pollution from oil spills.

"Through the planning process we may be able to predict impacts that are likely to occur and how best to provide for them. This may involve setting facility siting standards, pollution control measures and devising a system of revenue sharing with the oil companies and federal government."

Five other areas--Maine, Massachusetts, New Hampshire, New York and Rhode Island--will be affected by the proposed drilling. With the exception of Massachusetts' Nantucket Island, Rhode Island is the closest state to the proposed drilling site. Connecticut is the first state to have its study grant approved.

The grant will provide funding until August, 1976. Continuing federal grants are expected during subsequent years of the program, McKinney said.

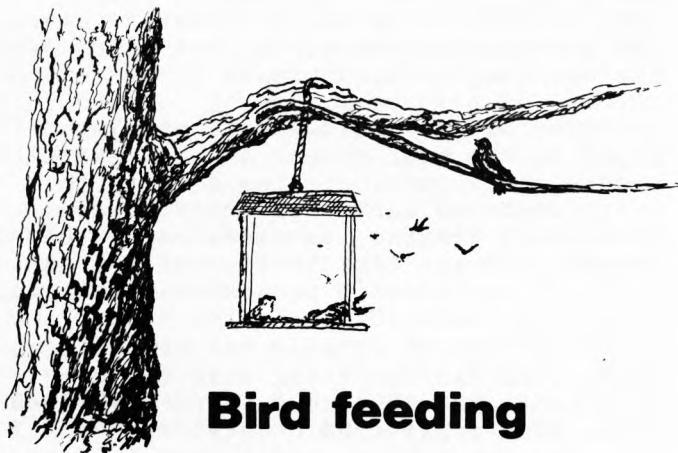
The Outer Continental Shelf Impact Study is the most recent of the federal grants that contribute two dollars to every state dollar to the Coastal Area Management Program, as mandated by the federal Coastal Area Management Act of 1972. Connecticut's program has been in existence since 1974. In its first year of operation the program was geared toward collecting and analyzing information. This year and subsequent years will focus on gaining input from coastal municipalities and the public, and toward formulating a coastal management plan.

Solar Energy Course Offered Again

Back by popular demand! Another ten-week course on Solar Energy will be offered by the Hartford Graduate Center starting March 2, 1976. It will provide the background necessary for the design of solar heating and hot water systems for buildings. A familiarity with algebra, trigonometry and physics will be assumed.

Lectures will emphasize the design of components and systems, appreciation of the state of the art and techniques for evaluation of performance claims. After a review of heat transfer fundamentals, students will learn to predict the energy requirements of buildings and the seasonally-variable energy which is available from the sun at a given location. Solar collector construction and performance will receive special attention so that wisely designed commercial collectors can be selected. Methods for making economic analyses to determine optimal collector area and heat storage volume will be discussed, and the potential for future solar applications explored. Through concurrent assigned problems a complete residential solar heating system will be designed and evaluated.

This course will meet 10 Tuesday evenings 7:00-10:00 p.m., at the Hartford Graduate Center, 275 Windsor Street, Hartford. The tuition fee is \$250. For further information contact Don Florek, Program Manager, Special Programs, The Hartford Graduate Center, 275 Windsor St., Hartford, Ct. 06120 - Telephone (203) 549-3600 x 253.



Bird feeding

If you enjoy feeding birds, remember that some precautions must be taken to insure the health of your feathered guests.

"A program of bird feeding is interesting, educational and fun, but it is not always a good thing for the birds," DEP Commissioner Theodore B. Bampton said. "Anyone who starts feeding birds should be sure to continue the feeding program all winter, because birds quickly become dependent on the constant food supply. If you're taking a vacation, make sure you leave enough food behind, or many of the birds at your feeding station will die."

The presence of a filled bird feeder can cause birds to leave their preferred habitat and concentrate in one area. When birds are concentrated, the rate of predation rises and the chances for disease and parasitic infection increase, Commissioner Bampton said.

A good feeding station should provide cover for birds to escape from both flying and ground predators. The area around the station must be kept clean, since decaying food or droppings may act as cultures for bacteria. Bacterial infections are more commonly found in waterfowl feeding programs. Care must always be taken in handling droppings, since some birds -- especially pigeons and starlings -- can transmit diseases to humans, he said.

Some types of food can be harmful to the birds. Straight peanut butter, for instance, is gummy enough to strangle a bird that takes too large a mouthful. Peanut butter should be mixed with chopped raisins, ground nuts, cornmeal, or chopped prunes to make a granular patty.

Sometimes, birds which normally migrate are delayed past their migration time by food offered in late autumn. These birds often die during the winter because they are not adapted to its rigors. Some of the stranded migrants can be saved if proper foods are provided; however, catbirds, robins, thrushes and thrashers

need soft fruits, such as chopped raisins or prunes, grapes, cherries, or cranberries. These should be poked onto the sharpened twigs of a dead branch or onto the thorns of a hawthorn or presented on a wire framework. A sunny area out of the wind should be provided.

A feeding program can become expensive in both time and money. The state cannot assume the burden of a feeding program that has outgrown the individual or group which started it. The bird population will have to drop to a level that can be supported by the feeder. This policy includes game and non-game birds.

Although the policy seems heartless, it is in agreement with one of the first laws of nature -- the size of a population is governed by the availability of food, water and shelter.

Migratory waterfowl do not benefit from a feeding program unless there is an emergency such as coastal icing. Migratory birds passing through the state are well able to fend for themselves, Commissioner Bampton said.

Winter fishing

DEP Deputy Commissioner Theodore B. Bampton reminds Connecticut sportsmen that winter fishing can provide hours of excellent sport in a great many of Connecticut's lakes and ponds. Most lakes and ponds are open until February 29, 1976. Several remain open until March 31.

Commissioner Bampton is urging fishermen to exercise good judgment and reasonable caution in gauging conditions at the various lakes. He points out the sportsman's responsibility to know the laws and regulations that apply to specific fishing areas. In addition to fishing regulations, the sportsman should be aware of the limitations on access to some of the lakes and ponds. Some areas are privately owned and cannot be reached without the permission of the owner, Commissioner Bampton said.

Cole Wilde, Chief of the Department's Fish and Water Life Unit, has prepared a list of lakes and ponds open for ice fishing. Also included are references to key regulations of interest to winter fishermen. A copy of the list may be obtained from the Information and Education Unit, Connecticut Department of Environmental Protection, State Office Building, Hartford, Connecticut 06115.

buffer bunches available



Until April 1, orders are being accepted at the Pachaug State Nursery for "wildlife buffer bunches" to be planted in the spring.

DEP's Forestry Unit offers these tree and shrub seedlings to Connecticut homeowners who would like to attract and feed wildlife.

Each bunch has 20 conifer seedlings, usually white pine and white spruce, and 30 shrub seedlings of several species. All are grown at the state nursery in Voluntown. The evergreens provide cover for small animals and the shrubs provide seeds or berries for food.

The price of a bunch of 50 seedlings is \$7.00, which includes the cost of direct mailing. The plants are eight to sixteen inches high, and each is labelled and comes with planting instructions. They are shipped in April. The seedlings are suitable for anyone with a quarter acre or more of open land and will attract

songbirds, rabbits, squirrels, and other small animals often seen as "urban wildlife", as well as species found in rural areas.

DEP has two restrictions on the seedlings: they may not be used for ornamental plantings and they may not be re-sold. Ornamental plantings would include using the seedlings individually instead of in groups or using them immediately around a house.

Homeowners are urged to place their orders early, since orders are processed as they arrive. Last year, many late applicants were disappointed when the stock sold out early.

Landowners with larger planting areas may also purchase from the state nursery a variety of species for Christmas tree, forestry or wildlife purposes. These orders are subject to special approval procedures.

Order forms and information are available from the DEP regional headquarters: Region I, P. O. Box 161, Pleasant Valley, 06063, tel. 379-0771; Region II, Judd Hill Road, Middlebury, 06762, tel. 758-1753; Region III, Box 150A, East Hampton, 06424, tel. 295-9523; or Region IV, State Forest Nursery, RFD I, Voluntown, 06384, tel. 376-2513. Information also available at the State Forester's Office, DEP Room 260, tel. 566-5348.

First come, first served, so don't be disappointed if supplies are depleted.

Cordwood program discontinued

DEP State Forester, Robert L. Garrepy, has announced that no additional permits will be issued for cordwood cutting on lands managed by the Department of Environmental Protection for the remainder of the winter.

"The demand for firewood has grown to the point where we must limit the number of people for the safety of the general public, and the protection of our state forest land," Garrepy said.

"Although various wood products have been sold from state forest lands for 50 years, the combination of the 1973 ice storm and rising oil prices brought home the point that wood is an excellent alternate heat source. As a result, the number of individuals seeking cordwood permits has increased significantly in the past few years."

Garrepy stated that there are nearly 600 permits outstanding at the present

time, and forestry personnel could not supervise additional cutting properly. The four Regional Offices have maintained lists, but the delay now exceeds three months, so the Department is forced to impose this restriction, he said.

"No new permits will be issued until next summer," Garrepy said, "although cutting under existing permits will be allowed." Interested individuals should contact the nearest Regional Office in May or June of 1976 if they wish to cut next year.

"There are 1.8 million acres of forest land in Connecticut, and only 10% of that is state-owned," he concluded. "People should check locally to see if wood is available from sources such as private land logging operations, utility line clearings, development projects and municipal landfill disposal areas."

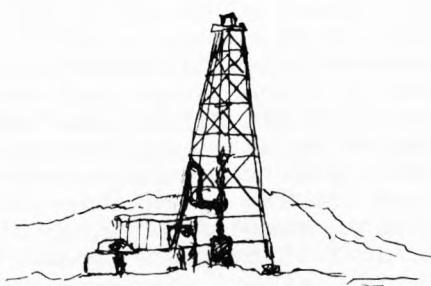
Energy conference held

New England must soon face some major energy decisions on offshore oil drilling, nuclear power, and large-scale energy conservation, according to speakers at the "Connecticut Conference on Energy", sponsored by the Connecticut Lung Association and held on December 11 in Hartford. The speakers included state and federal officials and authorities in the field of energy conservation.

Lynn Allen Brooks, Commissioner of Connecticut's Department of Planning and Energy Policy, discussed present plans for energy conservation, the possibility for outer-continental shelf oil exploration and development, and the merits of decontrolling prices on new sources of natural gas. He indicated that his department plans to save the state \$1 million during this fiscal year in energy conservation cost savings.

Kenneth Johnson, Deputy Regional Administrator for the U.S. Environmental Protection Agency, expressed concern over the "most serious environmental problem in New England": the high level of photochemical oxidants resulting from the use of motor vehicles. Johnson noted that smog levels in Connecticut ran second to Los Angeles. He agreed that the immediate solution to the oxidant problem is a mandatory program of automobile inspections, although he maintained that "pollution problems can only be finally corrected by a 'no discharge' policy." Part of such a policy would include using less energy to produce less wastes, and then recycling any waste that is produced.

Other speakers at the conference included Monte Canfield, Director of Special Programs of the U.S. Accounting General's Office, Leonard B. Hamilton, Director of Biomedical Research on Energy Alternatives at Brookhaven National Laboratory, William Marcuse, Head of the Economic Analysis Group at Brookhaven National Laboratory, and Governor Ella Grasso, who made the introductory remarks.



New Federal Dredge & Fill Guidelines

New guidelines designed to encourage the protection of fish and wildlife values affected by development activities in navigable waters and wetlands were published in the December 1 Federal Register by the Interior Department's U.S. Fish and Wildlife Service.

Activities covered by the guidelines generally include mineral exploration or development on the Outer Continental Shelf and leasing on other public lands. They also include rights of way on public lands, the filling or removal of sand, gravel, and coral from tidelands, and structural activities such as installation of bulkheads, piers, and jetties.

The guidelines prescribe the objectives, policies, and procedures to be followed by the Service in its review of proposals for all such activities in or affecting navigable waterways. The central focus of the guidelines is on the navigation permit program of the U.S. Army Corps of Engineers. A number of Corps suggestions have been incorporated in the new guidelines.

Within the United States permits are also required for discharge of pollutants and the disposal of materials in navigable waterways, and, thus, the guidelines apply. They also cover the disposal of dredged material in navigable waterways and the transportation of dredged material for ocean dumping. Additionally, the guidelines cover the disposal of sewage sludge, the construction of bridges or causeways over navigable waterways, and electric powerplants using navigable waters for cooling.

REMEMBER!

**THE CITIZENS' BULLETIN DEPENDS UPON
YOUR SUPPORT FOR ITS CONTINUED
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YOUR FRIENDS TO SUBSCRIBE!!!!**



Conservation Commission Corner

by Gay Ewing

Connecticut Association of
Conservation Commissions

ROXBURY This commission would welcome hints on "how to get things done using only spare time of voluntary workers." If you can help, write Norman G. Shidle, Chairman of the Roxbury Conservation Commission.

One of the biggest problems conservation commissions face is getting enough help to do the day-to-day commission work. The Town of Wilton has handled this very well by setting up committees to do specific tasks. Committee people do not serve on the conservation commission, nor are they appointed by the town, but are officially called on by the conservation commission to help in certain tasks. The town has a water committee which was responsible for doing most of the leg work for the inland wetlands regulatory functions and worked to obtain a complete hydrological survey for the town. There is also an open space committee which is directly responsible to the commission on all matters pertaining to programs for the open space land.

NEW MILFORD The fact that the chairman of the conservation commission is also the town sanitarian is perhaps unusual, as is the fact that the town sanitarian is a woman. Mrs. Harry Marx combines both responsibilities, contributing her professional talents to an effective environmental program in New Milford. Many of the real environmental issues she handles are those that come up on a day-to-day basis such as the approval of septic systems and the enforcement of health code regulations. This is especially true in a town like New Milford which is experiencing rapid growth.

THOMPSON The Thompson Conservation Commission would like to know more about establishing a land trust in that town. One of Thompson's toughest problems is that most of its water pollution comes across the state line from Massachusetts. The commission is working with DEP to work out a solution to the problem.

DARIEN Unlike some conservation commissions, the Darien Commission is not the inland wetlands agency for that town. There are many problems when the two

functions are separated, and the commission is trying to draw the programs together in its review of all land use plans. Lauren Lindstrom spends a great deal of time working in this area. Another concern of the commission is spoil disposal from dredging operations. Richard King, chairman of the commission, is very active in this area of environmental concern.

WORKSHOP MEETING The October 20th workshop was a valuable aid to conservation commission members. We listened to speakers from conservation groups, DEP and various conservation commissions. We also contributed our own ideas in discussions with fellow commissioners, inland wetlanders and land trust people. I would like to conduct more conservation commission workshops, but need input from you. What would you think of a meeting of certain groups of commissions, such as all those from a certain region or of certain town size? Let me know your ideas.

ADVICE NEEDED The lack of professional legal help is one which plagues many conservation commissions. Commissions and inland wetland agencies are needing more and more legal help to deal with all the regulations governing environmental protection. What can or should we do about this problem?

MRS. GAY EWING, GENERAL DELIVERY,
OLD LYME, CONNECTICUT 06371
434-8495

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- * Brochure on "Facts about Connecticut's Clean Water Program"
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- * Woodsy Owl Coloring Sheets

Write DEP Information & Education, Room 112 State Office Building, Hartford, Connecticut, or call 566-3489.



land acquisition notes

The town of Farmington has recently acquired approximately 480 acres adjacent to the Farmington River. This prime acquisition will protect ground water supplies for future use, preserve from development approximately two miles of desirable river bank, and enhance the existing state-owned Shade Swamp Sanctuary.

The State of Connecticut has recently received two generous gifts of land and interest. The first is located in the town of Lyme, on beautiful Hamburg Cove, and it consists of a scenic easement and development rights to fourteen acres. Thanks to the generosity of Kenneth and Diana Milne, this is the first acquisition in the Connecticut Gateway Area. It will serve to perpetuate the scenic beauty of the lower Connecticut River Valley for generations to come.

The second is a donation of 204 acres in the Northeast section of the State, with frontage on a crystal-clear lake. This acquisition will be consummated over a five-year period of time. An additional 168 acres, contiguous to the State's tract, is also being given by the same donor to the State of Rhode Island. The grantor is hoping for a joint Rhode Island/Connecticut State Park development at a future date.

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